

Headquarters U. S. Air Force

***I n t e g r i t y - S e r v i c e - E x c e l l e n
c e***

Air Force Acquisition Process Architecture Team (APAT)



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Concept Refinement
Level 4 Processes
4 May 2004



Purpose of APAT



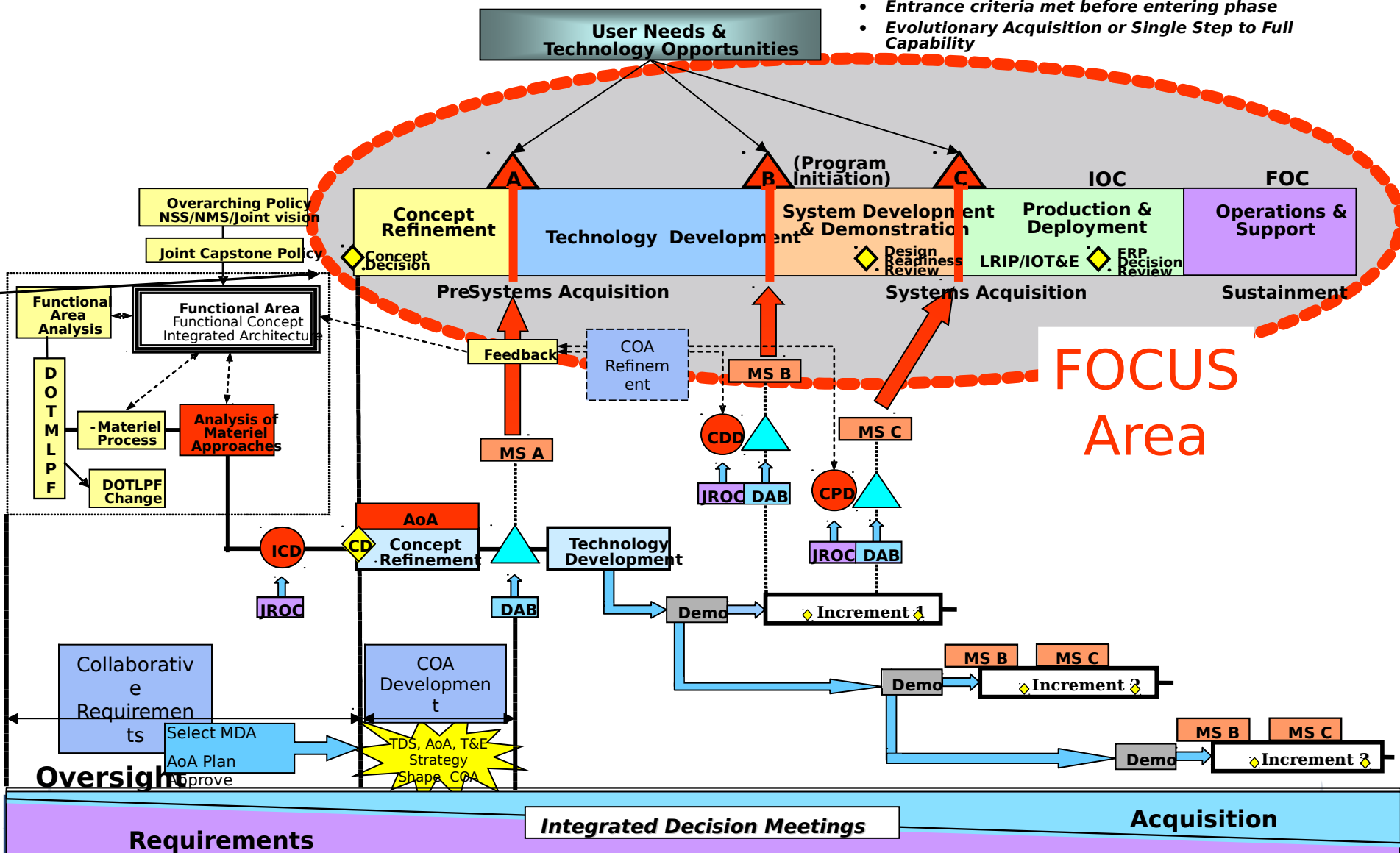
- Collaborative team to develop the “As Is” processes underlying the DoD 5000 Model (Big A)
- Focus on vertical integration of acquisition phases
- Create operational views based on these processes
- Develop system views that currently support these processes
- Identify potential improvement areas
- Support future process reengineering efforts
- Provide input to ATAC & TAG



Scope of Acquisition



- Process entry at Milestones A, B, or C
- Entrance criteria met before entering phase
- Evolutionary Acquisition or Single Step to Full Capability





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AF Acquisition Process Architecture Team



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Acquisition Transformation Action Council (ATAC)

Chair: SAF/AQX-Blaise Durante
AFMC/CD-Dr. Daniel Stewart

Members: M Gen Sovey (AFMC/DR)
B Gen Bowlds (ASC), Dr. Cunningham (ESC)
Mr. Maikisch (SMC), Ms. Stokley (AAC)
Mr. Conner (OC-ALC), Mr. Davis (WR-ALC)
Mr. McFawn (AFRL), Mr. Bond (AFMC/DO)
Mr. Gill (OO-ALC)

Transformation Action Group (TAG)

Chair: Ms. Janet Hassan (SAF/AQXA)
(AFMC/CD)

Members: Mr. Bill Budden (OC-ALC/PS)
Mr. Kevin Rankin (ASC/AE), Mr. Mark Klicker (ESC/AE)
Ms. Cyndy Morgiewicz (ESC/AE), Lt Col Kari Smith (AAC/XP)
Ms. Sandy Faircloth (WR-ALC/AE), Mr. Michael Hitchcock (AFRL/AE)
Mr. Bob Krilowicz (SMC/AXD), Mr. James Newhouse (AFMC/TR)

A

B

(Program
Initiation)

C

**Concept
Refinement**

**Technology
Development**

**System Development
& Demonstration**

**Production &
Deployment**

**Operations &
Support**

**Concept
Decision**

**Design
Readiness
Review**

**LRIP/IOT&E
FRP
Decision
Review**

Pre-Systems Acquisition

Systems Acquisition

Sustainment



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AF Acquisition Process Architecture Team



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AF Acquisition Process Architecture Team (AF APAT)

Task Leadership Sponsors

- 1 Blaise Durante SAF/AQX
- 2 Dr Dan Stewart AFMC/CD
- 3 ATAC Voting Body

Task Leadership Advisors

- 1 Janet Hassan SAF/AQXA
- 2 Terry Balven SAF/AQX
- 3 Denny Paul CRET
- 4 TAG Members

Task Leadership Participants

- 1 Lt Col Michael Paul SAF/ AQXA - Team Lead
- 2 Maj. Ryan Mantz SAF/AQXA
- 3 Mike Farmer AFIT/LSB
- 4 Guy Fritchman AFIT/LSB
- 5 Ken Farkas AFIT/LSB
- 6 Dave Weber AFMC/DRA
- 7 Jeff Stanley AFMC/DRA
- 8 Ken Huff AFMC/DRA
- 9 Steve Clark AFMC/DRA
- 10 Gail Steele AFMC/DRX
- 11 Kevin Kemper AFMC/ENP
- 12 Jeff Hallett AFMC/LGIA
- 13 John Pamplin AFMC/LGIL
- 14 Mick Hitchcock AFRL/AE
- 15 Vicki Hill ASC/PMAA
- 16 Bill Budden OC-ALC
- 17 Bob Martin SAF/ACE
- 18 Col. Ralph Diccio SAF/ACE
- 19 Maj. Mark Schmidt SAF/AQ
- 20 Jeff Loren SAF/AQRE
- 21 Jim Wolfe SAF/AQX
- 22 Lt .Col. Joseph McWilliams SAF/AQX
- 23 Steve Cain AF/ILID
- 24 Lt.Col. Robert Clausen SAF/AQXI
- 25 Reggie Brooks SAF/AQXI
- 26 Lt. Col. Leslie Blackham SAF/USAP
- 27 Trent Benisch SAF/USAP
- 28 Sandy Faircloth WR-ALC

Sponsors Roles & Responsibilities

- Resource Commitment
- Leadership Visibility
- Communication
- Priority Sustainment

Advisors Roles & Responsibilities

- Resource Commitment
- Leadership Visibility
- Communication
- Priority Sustainment
- Availability to Team
- Champions to Complete

Participants Roles & Responsibilities

- Visibility to Others
- Communication
- Priority Sustainment
- Commit to Teaming
- Acquisition Focus Expertise
- Open to Change



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APAT Timeline



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Mar 04 ATAC Meeting

Apr 04 TAG Kickoff

**May 04 APAT Level 4 Process Decomposition Work
Sessions/Telecons**

Jun 04 As Is Descriptions

**Jun 04 Acquisition Process / Operational Architecture Level 4-5,
Initial Acquisition Systems & Standards (SVs)**

**Jul 04 ATAC Meeting - Present TAG results and proposals for
next cycle**

Aug 04 Architecture Baseline (As-Is)

Sep 04 ATAC Meeting

Oct 04 AF Acquisition Process & System Vision (To-Be)

Oct 04 AF Acquisition ConOps

Dec 04 ATAC Meeting

Dec 04 AF Acquisition Transformation Plan

Feb 05 AF Acquisition Strategic Transformation Plan

Mar 05 ATAC Meeting



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APAT Level 4 Work Sessions



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- Concept Refinement – 4-6 May, Rosslyn, VA
- Technology Development – 11-13 May, WPAFB, OH
- System Development & Demonstration – 18-20 May, WPAFB, OH
- Production & Deployment – 25-27 May, Eglin AFB, FL



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APAT To Date



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- Level 3 processes developed in work sessions
- Level 3 processes validated by the TAG
- Level 4 Operations & Support process decomposition started



Work Session Agenda



- 4 May 04
 - Introduction
 - Level 4 Process Decomposition – 1.1
Identify Resources (**see slide 14**)
 - Identify all process parameters (**see slide 12**)
 - Identify improvement opportunities
 - Level 4 Process Decomposition – 1.2
Evaluate Alternatives (**see slide 15**)
 - Identify only inputs, process steps, outputs
 - Identify improvement opportunities



Work Session Agenda



- 5 May 04
 - Level 4 Process Decomposition – 1.3
Determine COA(s) (**see slide 16**)
 - Identify only inputs, process steps, outputs
 - Identify improvement opportunities
 - Level 4 Process Decomposition – 1.4
Prepare for Next Phase (**see slide 17**)
 - Identify only inputs, process steps, outputs
 - Identify improvement opportunities



Work Session Agenda



- 6 May 04
 - Level 4 Process Decomposition – 1.5 Prepare for Milestone A (**see slide 18**)
 - Identify only input, process steps, outputs
 - Identify improvement opportunities
 - Establish Telecon Schedule for May
 - Wrap Up and Other Next Steps



Process Parameters - Definitions



- **Process** – Logical set of steps transforming an input into an output
- **Inputs** – Information or resource consumed in the activity to create the output
- **Outputs** – Information produced by an activity
- **Suppliers** – Who provides the input to the process?
- **Customers** – Who receives the output of the process?
- **Key Players** – Who is ultimately responsible for the process being accomplished?
- **Controls** – Business rules that govern the performance of an activity
- **Mechanisms** – Resource that performs or supports an activity, but not consumed by the activity
- **Cycle Times** – What is the duration of the process step?



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Acquisition Architecture (AF A-PAT)

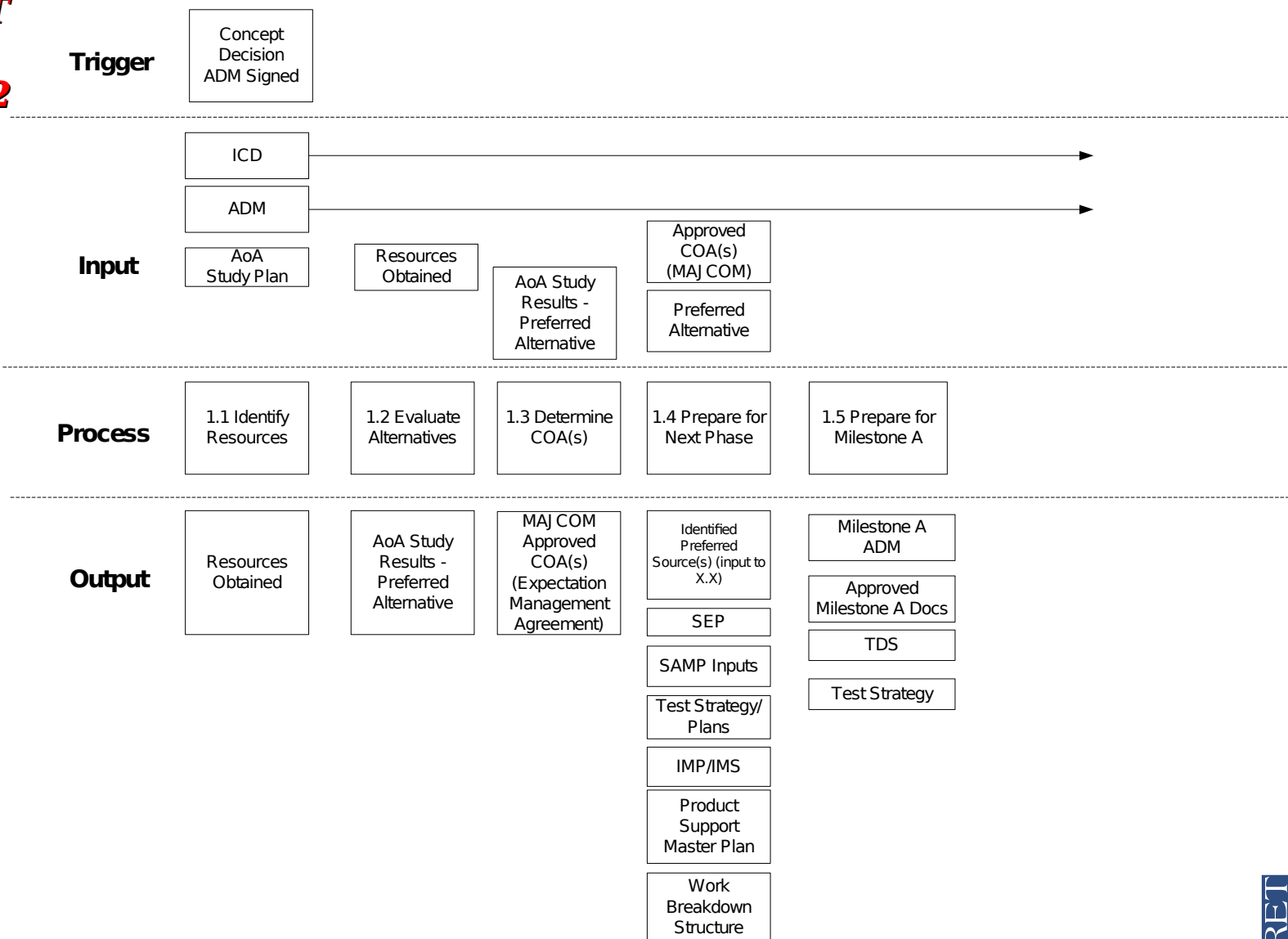
1.0 Concept Refinement



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DRAFT

Level 2





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Acquisition Architecture (AF A-PAT)



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1.1 Identify Resources

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Level 3

Trigger

Concept
Decision
ADM Signed

Input

ICD

ADM

AoA
Study Plan

Resource
Needs
(includes:
Manpower,
Facilities,
Funding,
Tools, Etc.)

Process

1.1.1 Assign
Lead
Organization

1.1.2
Determine
Resource
Needs

1.1.3 Acquire
Resources

Activities

Output

Lead
organization
Identified

Resource
Needs
(includes:
Manpower,
Facilities,
Funding,
Tools, Etc.)

Resources
Obtained



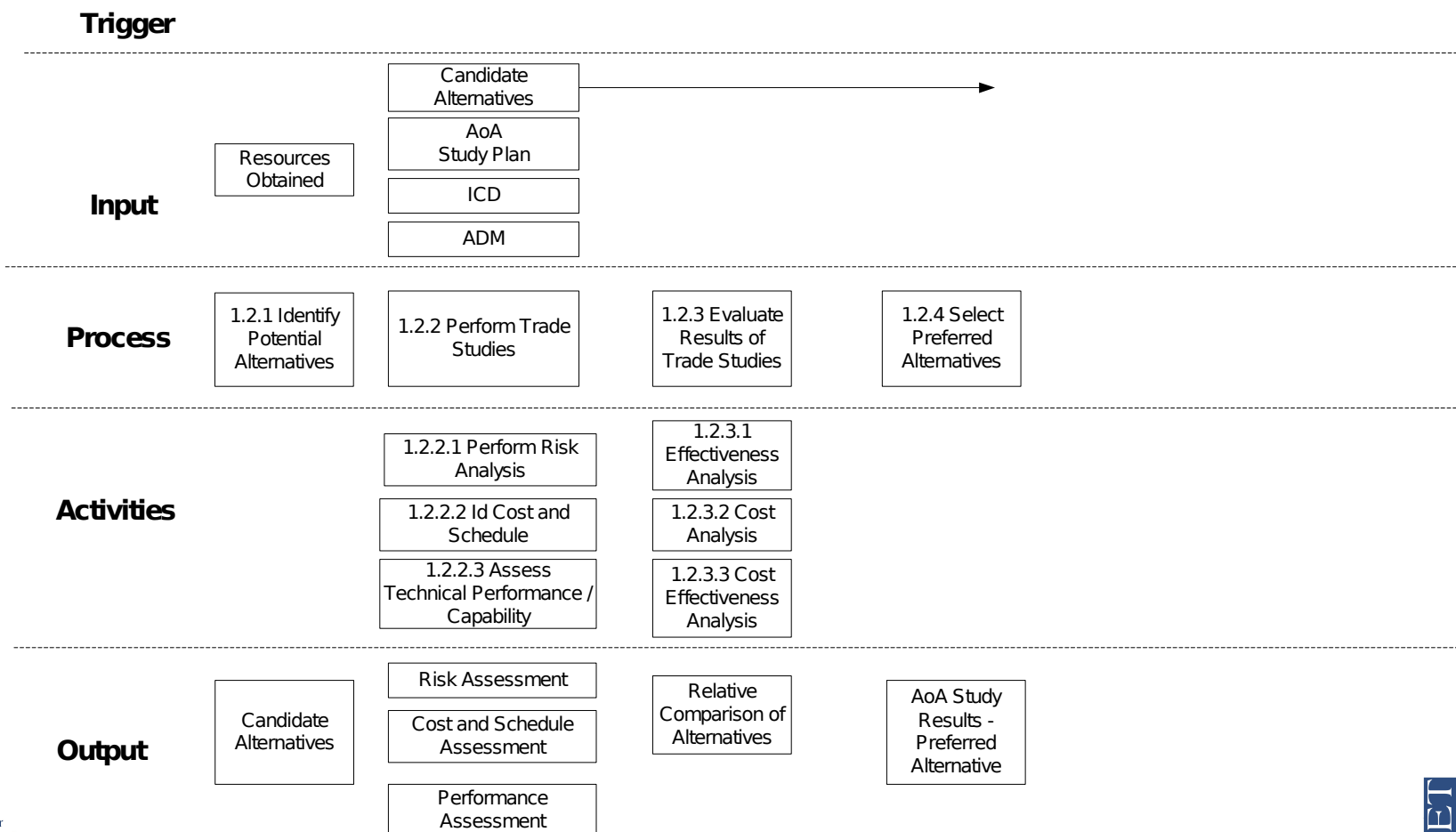
Acquisition Architecture (AF A-PAT)



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1.2 Evaluate Alternatives

Level 3





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Acquisition Architecture (AF A-PAT)

1.3 Determine COA(s)



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Level 3

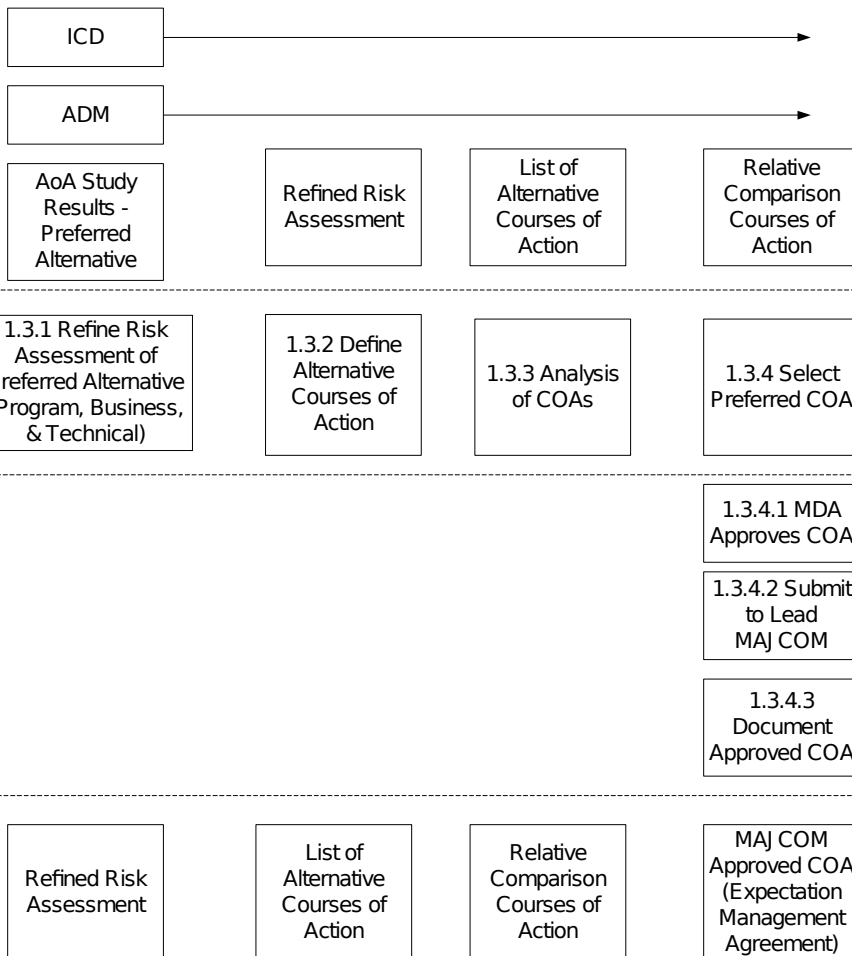
Trigger

Input

Process

Activity

Output





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Acquisition Architecture (AF A-PAT)



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1.4 Prepare for Next Phase

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Level 3

Trigger

COA Selected

Input

ICD

Approved COA
(MAJ COM)

Preferred Alternative

Budget Sources
Identified

Process

1.4.1 Establish
Budget Source(s)

1.4.2 Prepare to
Acquire Source(s)

1.4.3 Identify Needed
Resources
(manpower, facilities,
etc.)

1.4.4 Conduct
Planning for
Implementation

Output

Budget Sources
Identified

Identified Preferred
Source(s)

Resources Identified

SEP

SAMP Inputs

Test Strategy/Plans

IMP/IMS

Product Support
Master Plan

Work Breakdown
Structure



Acquisition Architecture (AF A-PAT)



1.5 Prepare for Milestone A

DRAFT

Level 3

Trigger

Input

ICD
ADM
AoA Study Results - Preferred Alternative
MAJ COM Approved COA(s)
SEP
SAMP Inputs
Test Strategy/Plans

ICD
ADM

ICD
ADM
Approved Milestone A Documents

Process

1.5.1 Develop & Prepare MS A Docs

1.5.2 Coordinate MS A Docs for Approval

1.5.3 Conduct DAB/ Decision Reviews

Activity

1.5.1.1 Develop TDS

Output

Draft Milestone A Docs for Coord
TDS
Test Strategy

Approved Milestone A Documents

Signed Milestone A ADM



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Back-up Slides



APAT Future Direction



- Perform process decomposition to level 5 granularity by June 2004
- Coordinate System Architect 2000 tool with AF/CIO
 - Development of architecture in support of OSMP
- Perform process value analysis
 - Process flows
 - Cycle time
 - Value added analysis
- Identify process improvement opportunities
 - Rapid improvement events based on process model



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Issues and Challenges

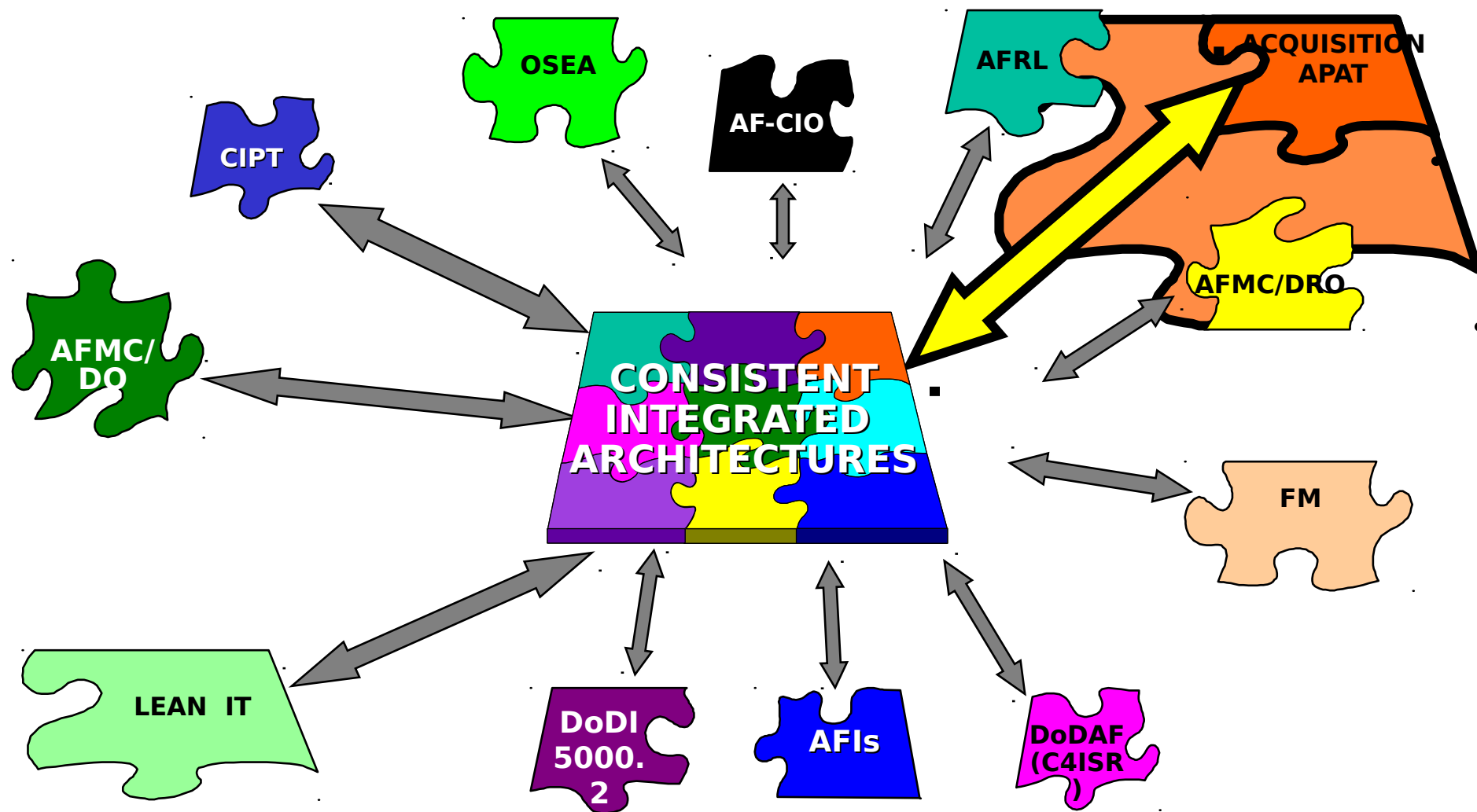


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- In many cases, repeatable processes don't exist. This may be process engineering, not re-engineering
- Need to **sync-up** this effort with ongoing efforts at AFMC (AFMC/DR, AFMC/DRO, AFRL, ASC, others)
- Need to keep the focus on the process, not the functions in the process.
- Capturing "hidden elements of process" – e.g. staff-to-staff time preparing for official approvals
- Scope of the effort – AQXI has identified more than 80 IT "systems" that support acquisition just in SAF/AQ.
 - Variety of processes requires broad participation across the acquisition domain
- Validation of acquisition architecture
- Increase membership/participation – Centers/SPOs
 - Time commitment
 - 3 day face to face work sessions
 - 2 hour telecons



Integration Points





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Why Architecture?



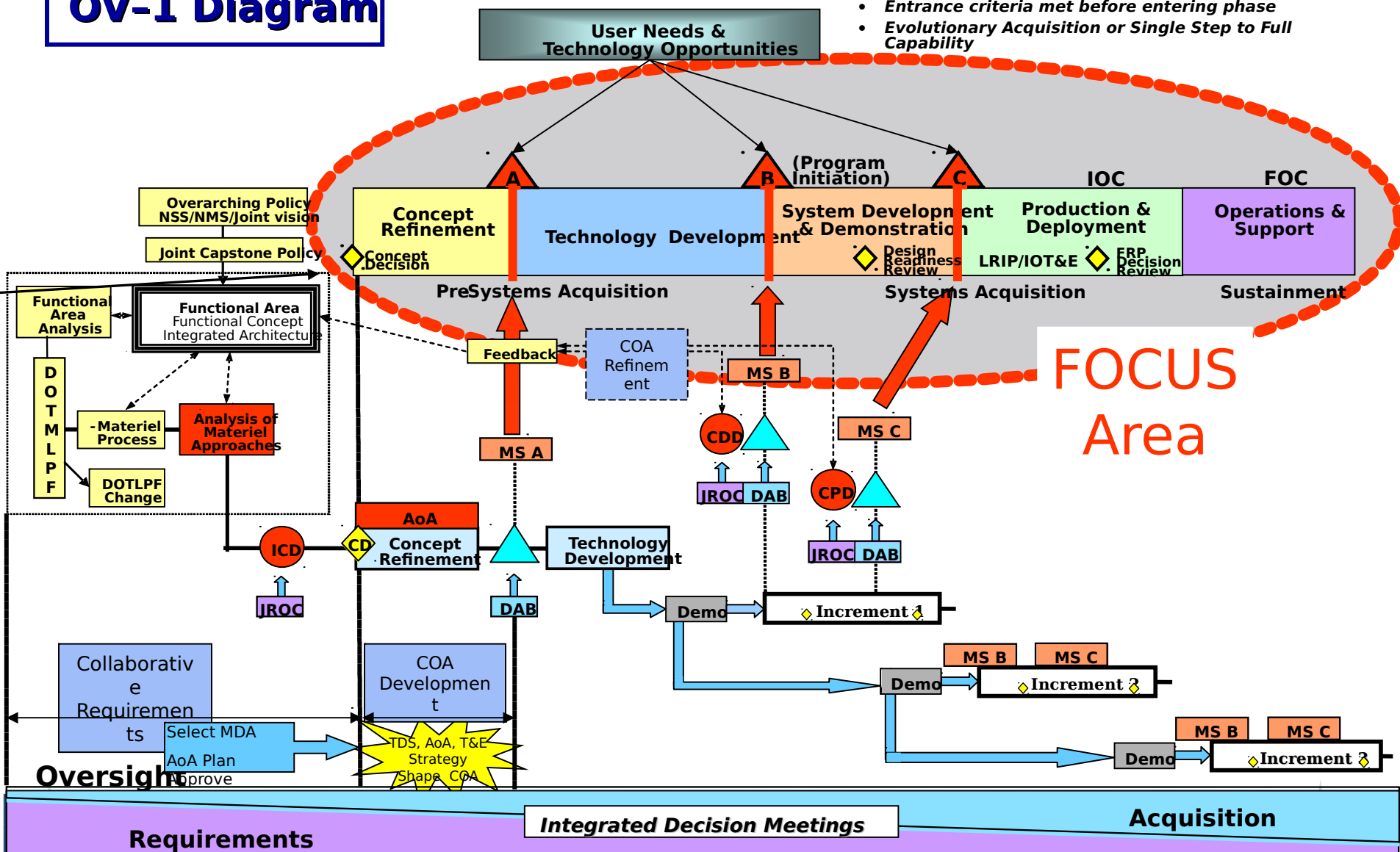
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- DoD and AF Mandates
- Makes sense
 - Structured view of the acquisition process
 - Process in the driver seat; functional and enabling aspects support the process
 - Value Analysis
- Cautions
 - Finding the balance between institutional transformation and MDA flexibility



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- **Process entry at Milestones A, B, or C**
- **Entrance criteria met before entering phase**
- **Evolutionary Acquisition or Single Step to Full Capability**





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One Architecture - Three Views

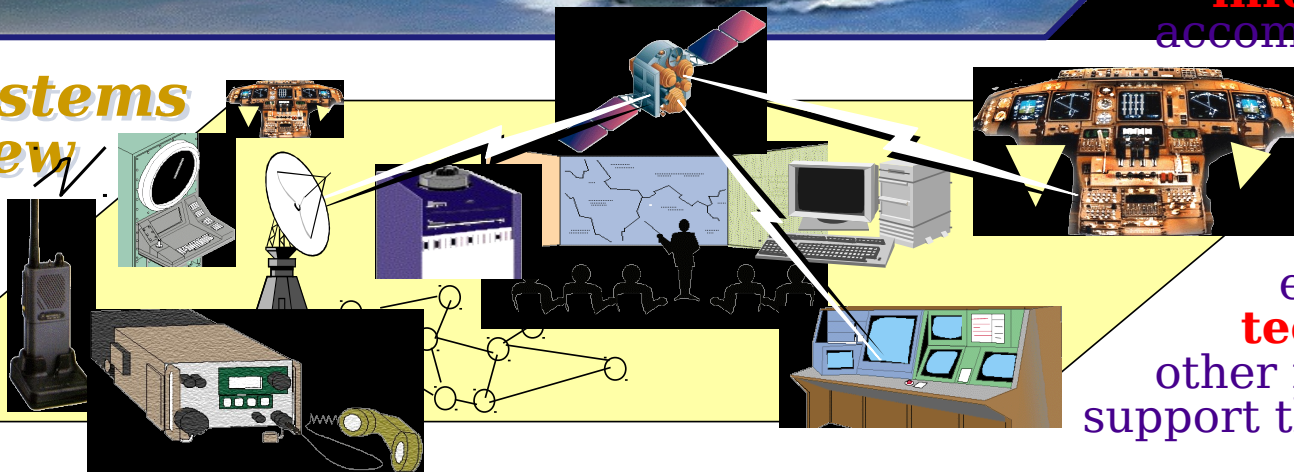


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The **Operation View** describes and interrelates the **operational elements, tasks, and activities, information flows** required to accomplish mission operations.

Systems View



The **Systems View** describes and interrelates the existing or postulated **technologies, systems, and other resources** intended to support the operational requirements.

Technical View



The **Technical View** describes the profile of **rules, standards, and conventions** governing systems implementation.

Framework Products - Format of Products

OPERATIONAL (OV)	SYSTEMS (SV)	TECHNICAL (TV)
1: High-Level Operational Concept	1: System Interface Description	1: Technical Architecture Profile *
2: Operational Node Connectivity Description	2: Systems Communications Description	2: Standards Technology Forecast
3: Operational Information Exchange Matrix	3: Systems Matrix	
4: Command Relationships Chart	4: Systems Functionality Description	
5: Activity Model *	5: Operational Activity to System Function Traceability Matrix	
6a: Operational Rules Model	6: Sys Information Exchange Matrix	ALL (AV) Overview & Summary
7: Operational State Transition Description	7: Sys Performance Parameters Matrix	Integrated Dictionary
8: Operational Event/Trace Description	8: System Evolution Description	
9: Logical Data Model	9: System Technology Forecast	
	10a: Systems Rules Model	
	10b: System State Transition Description	Spreadsheets
	10c: Systems Event/Trace Description	Static Models & Graphics
	11: Physical Data Model	



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Products of the Operational View- ***OV***

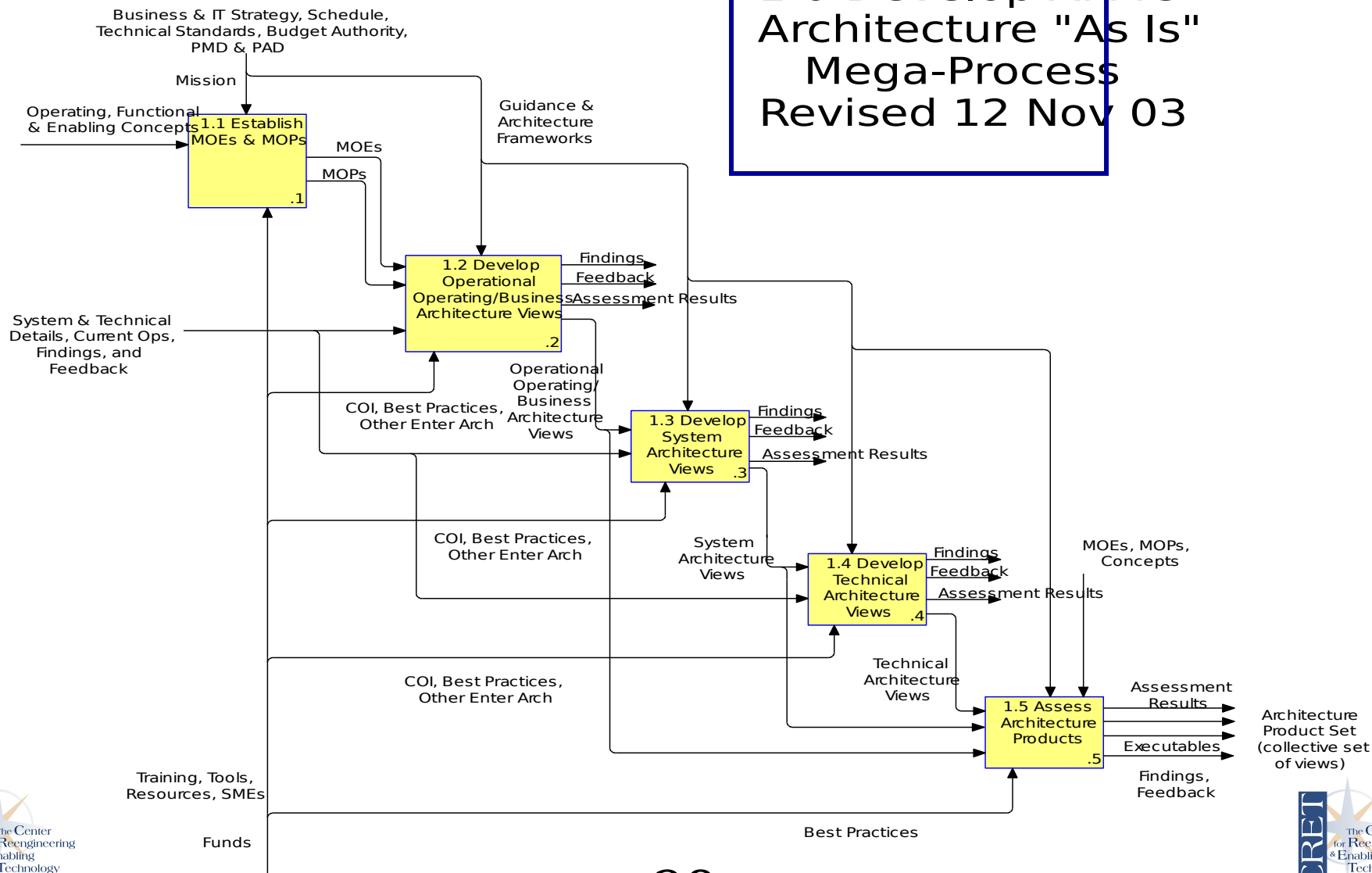


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APPLICABLE VIEW	PRODUCT REFERENCE	ARCHITECTURE PRODUCT	GENERAL DESCRIPTION
Operational	OV-1	High-level Operational Concept Graphic	High-level graphical/textual description of operational concept (high-level organizations, missions, geographic configurations, connectivity...)
Operational	OV-2	Operational Node Connectivity Description	Operational nodes, activities performed at each node, connectivities, & information flow between nodes
Operational	OV-3	Operational Information Exchange Matrix	Information exchanged between nodes and the relevant attributes of that exchange such as media, quality, quantity, and the level of interoperability required
Operational	OV-4	Organizational Relationships Chart	Command, control, coordination, other relationships among organizations
Operational	OV-5	Operational Activity Model	Activities, relationships among activities, inputs and outputs. Overlays can show cost, performing nodes, or other pertinent information
Operational	OV-6a	Operational Rules Model	One of the three products used to describe operational activity sequence and timing - identifies business rules that constrain operation
Operational	OV-6b	Operational State Transition Description	One of the three products used to describe operational activity sequence and timing - identifies business process responses to events
		Operational	One of the three products used to describe operational



1.0 Develop AFMC Architecture "As Is" Mega-Process Revised 12 Nov 03





Operational Activity to System Function

Traceability Matrix (SV-5)



OV to SV Mapping

Operational Activities

System Functions

	3.11	3.11.3	3.12	3.12.1	3.12.2	3.12.3	3.13	3.14	3.14.1	3.14.2	3.14.3	3.14.4	3.15	3.16	3.17	3.17.1
1	X															
1.1		X														
1.1.1			X													
1.1.1.1	X															
1.1.1.2					X											
1.1.1.3							X									
1.1.2										X						
1.1.2.1			X													
1.1.2.2					X											
1.1.2.3							X									
1.1.3											X					
1.1.3.1													X			
1.1.3.2								X								
1.1.3.3														X		
1.1.3.4														X		

•

- Correlates operational capability requirements that would *not* be satisfied if a specific system is *not* fielded to a specific unit in the architecture
- Thus identifies the transition of an operational capability into a planned or fielded system
- Allows decision makers to quickly
 - identify stovepiped systems
 - redundant/duplicative systems
 - gaps in capability
 - possible future investment strategies



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Agile Acquisition ConOps



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- SAF/AQ
 - Identify and implement innovative initiatives
 - Champion business transformation
 - Integrate AF and DoD initiatives
 - Establish policy
- AFMC
 - Support and implement innovative process changes at Command and Center level
 - Implement policy
 - Horizontal integration assessments



Streamlined Policy



- **DoD Directive 5000.1**
 - Principles retained; innovation/flexibility emphasized
- **DoD Instruction 5000.2**
 - Detailed discussion of acquisition model
 - Focused on required outcomes and statutory requirements
 - MDA can tailor
- **DoD Acquisition Guidebook**
 - Canceled DoD Regulation 5000.2; characterized as non-mandatory
 - Content will be:
 - Expectations (TEMP, C4ISP, etc.)
 - Best Practices
 - Lessons Learned
 - Guidance on practice and procedure
 - Information retained; available to workforce on Internet
 - Revision underway



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AGILE ACQUISITION

Transformation Roadmap Cycle

